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STATUS OF THE EUROPEAN CORN BORER IN 1949

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Distribution

The European corn borer (Pyrausta nubilalis, (Hbn.)) spread into 145 more counties in the United States in 1949. The area now known to be infested covers 1,312 counties in 29 States, as shown on Map 1. New county infestations were reported as follows: Illinois 2, Kansas 50, Kentucky 1, Minnesota 4, Nebraska 19 (1 observed in 1948), North Carolina 1, North Dakota 29, South Dakota 10, Tennessee 4 (2 were observed in 1948), and West Virginia 25 (all observed in 1948).

^{1/} The data presented in this report were obtained with the cooperation of State agencies. The data were assembled and tabulated at the European Corn Borer Research Laboratory, Toledo, Ohio, Wm. G. Bradley in charge. The following agencies contributed information on distribution of the insect: The departments of agriculture of Maine, Maryland, Minnesota, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, Tennessee, West Virginia, Vermont, and Wisconsin; the agricultural experiment stations of Connecticut, Delaware, Iowa, Kentucky, Massachusetts, Missouri, New York, North Dakota, Ohio, South Dakota, Tennessee, Virginia and West Virginia; Illinois Natural History Survey; Indiana Department of Conservation; Entomological Commission of Kansas; and the extension services of Michigan, Missouri, Nebraska, and Pennsylvania.

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The borer is known to occur in the following counties not reported as infested before 1949:

Illinois:	Kansas (cont'd.):	North Dakota:	Tennessee:
Alexander	Republic	Barnes	Blount*
Pulaski	Riley	Benson	Franklin
	Rooks	Burleigh	Greene
Kansas:	Russell	Cavalier	Knox*
Allen	Saline	Dickey	
Brown	Sedgwick	Eddy	West Virginia:*
Butler	Smith	Emmons	Barbour
Chautauqua	Stafford	Foster	Braxton
Cherokee	Sumner	Grand Forks	Calhoun
Clay	Washington	Griggs	Doddridge
Cloud	Wilson	Kidder	Fayette
Cowley		Logan	Gilmer
Crawford	Kentucky:	McHenry	Grant
Dickinson	Livingston	McIntosh	Greenbrier
Edwards		McLean	Hampshire
Elk	Minnesota:	Mercer	Hardy
Ellis	Carlton	Morton	Jackson
Ellsworth	Cook	Nelson	Lewis
Ford	Kittson	Oliver	Mercer
Geary	St. Louis	Pembina	Mineral
Greenwood		Pierce	Monroe
Harvey	Nebraska:	Ramsey	Morgan
Jackson	Antelope	Ransom	Pendleton
Jewell	Boone	Sargent	Pocahontas
Kingman	Boyd	Sheridan	Raleigh
Kiowa	Custer	Steele	Randolph
Labette	Dixon*	Walsh	Roane
Lincoln	Frontier	Ward	Summers
Lyon	Garfield	Wells	Taylor
McPherson	Gosper		Upshur
Marion	Greeley	South Dakota:	Wirt
Marshall	Hitchcock	Buffalo	
Mitchell	Holt	Campbell	
Montgomery	Howard	Gregory	
Morris	Knox	Hughes	
Nemaha	Loup	Hyde	
Neosho	Phelps	McPherson	
Norton	Pierce	Potter	
Osborne	Sherman	Sully	
Phillips	Valley	Tripp	
Pottawatomie	Wheeler	Walworth	
Pratt			
Reno	North Carolina:		
	Edgecombe		

* Observed in 1948 and reported in 1949.

Abundance

Agencies of 26 States cooperated with the Bureau of Entomology and Plant Quarantine in making surveys to determine abundance of the European corn borer in corn during the late summer and fall of 1949. From 1 to 26 fields of corn were sampled in each of 701 counties by State and Bureau observers.

The standard field sample, the same as utilized in previous years, consisted of the examination of 25 consecutive plants for infestation by the borer. Two infested plants found in the examination were dissected to determine the number of borers per plant and the percentage of plants infested multiplied by the average number of borers per infested plant gave the borer population per 100 plants for the field. The usual procedure was to sample 10 fields in each county. In this report all county populations are expressed as the average number of borers per 100 plants in the field samples taken within the county. A State mean is the average of the county populations of borers per 100 plants.

All States were surveyed by using the same procedure with variations in the size and number of samples taken. In Maine and Pennsylvania more than 25 plants were examined and more than 2 plants were dissected in most fields. The number of fields sampled per county in Maine varied from 9 to 26, and in Pennsylvania from 10 to 21. The standard field sample was utilized in Delaware, but 20 fields were sampled in each county. In Iowa all counties were grouped into 12 corn-testing districts of varying size, and 50 standard samples were taken in each district, from 3 to 10 being taken in each county. The standard sampling method was followed in Minnesota except that fewer than 10 samples were taken in some counties, although no fewer than 6 samples were taken in any one county. In Michigan, Missouri, Nebraska, South Dakota, and Wisconsin a varying number of standard samples (1-10) were taken in the counties included in the survey. The standard survey procedure, with minor variations, was followed in Connecticut, Illinois, Indiana, Kentucky, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Ohio, Rhode Island, Vermont, and West Virginia.

Eastern United States

The surveys in 14 eastern States indicated that the borer was generally less abundant this year than in 1948. Comparable counties in these States average 46 borers per 100 plants in 1949 compared with 83 the previous year. A total of 171 counties were surveyed in the eastern States of which 158 were surveyed in 1948. Of the latter, the borer populations averaged higher in 1949 than in 1948 in only 35 counties, distributed in 7 States. Borers were less abundant in Pennsylvania, but a small increase in numbers occurred in the westernmost counties. An increase in abundance in the State of West Virginia based upon data from only 3 counties may not be significant. Populations in Virginia averaged only 1 borer less than in 1948, 98 compared with 97, based upon 11 comparable counties, and it is considered that there was no change in the borer situation in that State. The three counties of Delaware averaged 70 borers per 100 plants, 21 less than in 1948, and was the third highest in population of the 14 States. All the other eastern States averaged 51 borers, or fewer, per 100 plants.

Central United States

In marked contrast to the lower populations of borers occurring in the East the insect was more abundant in 1949 than in 1948 in all Central States, except Kentucky.

The heaviest populations of borers occurred in a rather wide zone running from west-central Ohio northwesterly to southeastern South Dakota. Many counties in this belt exceeded 500 borers per 100 plants, and in northwestern and central Iowa, Districts 1, 2, and 5 exceeded 1,000 borers per 100 plants. District 1 in the northwest corner of Iowa averaged 1,561 borers, and Sioux County in this district averaged 2,455 borers per 100 plants in the 8 fields sampled. The State of Iowa averaged 802 borers per 100 plants compared with 202 in 1948.

The counties surveyed in Illinois averaged 409 borers per 100 plants in 1949 compared with 137 in 1948. The two northern districts averaged 532 and 763 borers per 100 plants, indicating that the borer was generally more abundant in northern than in central Illinois, although the counties in the eastern district averaged 608 borers.

Counties in southwest and south-central Minnesota had populations of 517 and 592 borers per 100 plants. One county, Waseca, exceeded 1,000 borers per 100 plants. The population in 60 comparable counties rose from 76 in 1948 to 379 in 1949. The increase was greatest in the southwest district.

The counties surveyed in Ohio and South Dakota in both 1948 and 1949 averaged 309 and 353 borers per 100 plants, respectively, in 1949 as compared with 88 and 68 in 1948. These two States form the extremities of the belt of heaviest infestation.

Indiana averaged 277 borers per 100 plants, only a few less than Ohio, and the heaviest populations occurred in the northern counties.

Michigan, Missouri, Nebraska, and Wisconsin, with averages of 119, 125, 157, and 150 borers per 100 plants, respectively, may be considered as lying to the north and south of the heavily infested zone.

North Dakota averaged 59 borers per 100 plants in 13 counties which averaged less than 1 in 1948, and had the greatest increase in population of the States surveyed.

The survey data for all States are summarized in table 1, and county averages by States are given in table 2. The surveyed area and approximate populations are shown on map 2.

In general, the 1949 increase in borer populations in the North Central States was greatest in the areas of low populations in 1948. Borers in Indiana, South Dakota, and Minnesota, with 1948 populations of 68, 68, and 76, increased 4.1-fold, 5.2-fold, and 5-fold, respectively, in 1949. Illinois and Iowa borer populations of 137 and 202 borers per 100 plants in 1948 increased 3 and 4 times, respectively, in 1949. The increase in States with fewer than 38 borers per 100 plants in 1948, Nebraska, Wisconsin, Missouri, and North Dakota was 4.1, 4.5, 6.2, and 59.07 times, respectively.

In 1949 the county populations averaged about 3 times higher than in 1948 in the entire infested area, and 4 times higher in the Central States or in the Corn Belt.

Table 1.--Summary by States of European corn borer abundance in corn, fall of 1949, compared with data for 1948

State	1948		1949		Counties surveyed		
	Number	Average	Number	Average	both years		
	of	number of	of	number of	Number	Borers per	
	counties:	borers per	counties:	borers per	of	100 plants	
	surveyed:	100 plants	surveyed:	100 plants	counties:	1948:	1949
Eastern United States:							
Connecticut	8	31	8	15	8	31	15
Delaware	3	91	3	70	3	91	70
Maine	9	143	11	17	7	149	22
Maryland	23	80	23	38	23	80	38
Massachusetts	4	117	4	46	4	117	46
New Hampshire	8	184	8	105	7	189	105
New Jersey	20	59	20	43	20	59	43
New York	20	50	20	33	20	50	33
North Carolina	3	53	3	35	3	53	35
Pennsylvania	38	90	45	58	38	90	51
Rhode Island	3	192	3	48	3	192	48
Vermont	11	19	8	3	8	19	3
Virginia	13	86	12	91	11	98	97
West Virginia	3	21	3	44	3	21	44
Total (14)	166		171		158		
Average						88	46
North Central States:							
Illinois	37	137	40	383	37	137	409
Indiana	70	68	70	283	70	68	277
Iowa	99	202	99	802	99	202	802
Kentucky	12	57	9	52	9	64	52
Michigan	8	53	13	109	7	59	119
Minnesota	60	76	67	350	60	76	379
Missouri	48	14	23	120	17	20	125
Nebraska	24	38	66	90	24	38	157
North Dakota	14	Tr.*	29	40	13	Tr.	59
Ohio	31	88	31	309	31	88	309
South Dakota	25	46	26	202	16	68	353
Wisconsin	42	33	57	192	36	33	150
Total (12)	470		530		419		
Average						99	394
United States	636		701		577		
Average						95	299

* Trace -- Average less than one.

Table 2.-- European corn borer abundance in corn, fall of 1949, compared with data for 1948.

: Average number : of borers per : 100 plants			: Average number : of borers per : 100 plants		
State and county	1948	1949	State and county	1948	1949
Connecticut:			Illinois (Cont'd.):		
Fairfield	13	4	West--		
Hartford	52	9	Adams	42	229
Litchfield	31	2	Brown	22	93
Middlesex	45	24	Hancock	171	230
New Haven	23	15	Henderson	266	405
New London	19	17	Knox	285	352
Tolland	35	25	McDonough	97	285
Windham	27	25	Average	147	266
State mean	31	15			
Delaware:			Central--		
Kent	82	59	Logan	49	81
New Castle	40	23	McLean	273	598
Sussex	152	128	Macon	38	263
State mean	91	70	Peoria	346	510
			Woodford	249	460
			Average	191	382
Illinois:					
Northwest--			East--		
Bureau	294	808	Champaign	77	422
Jo Daviess	109	725	Iroquois	177	661
Mercer	323	177	Kankakee	227	845
Ogle	165	580	Livingston	363	688
Whiteside	183	588	Vermilion	83	424
Winnebago	80	311	Average	185	608
Average	192	532			
Northeast--			West Southwest--		
Boone	44	624	Cass	22	93
De Kalb	163	712	Christian	38	100
Du Page	156	755	Madison	34	90
Lake	96	609	Pike	-	40
La Salle	267	855	Sangamon	25	114
Will	80	1024	Average	30	87
Average	134	763			

Table 2.--(Continued)

: Average number			: Average number		
: of borers per			: of borers per		
State and	: 100 plants	:	State and	: 100 plants	:
county	: 1948	: 1949	county	: 1948	: 1949
Illinois (Cont'd.):			Indiana (Cont'd.):		
East Southeast--			Northeast--		
Clark	19	88	Adams	68	522
Coles	-	51	Allen	8	462
Douglas	-	77	De Kalb	24	442
Jasper	8	106	Huntington	147	230
Lawrence	10	48	Lagrange	140	73
Moultrie	25	89	Noble	28	479
Average	16	76	Steuben	20	90
			Wells	6	544
Southwest--			Whitley	52	581
St. Clair	33	97	Average	55	380
			West--		
State mean			Clay	12	62
comparable			Fountain	13	153
counties			Montgomery	106	246
(37)	137	409	Owen	3	97
Indiana:			Parke	39	388
Northwest--			Putnam	34	638
Benton	44	318	Tippecanoe	43	418
Jasper	183	448	Vermillion	20	248
Lake	155	380	Vigo	9	84
La Porte	79	324	Warren	27	158
Newton	180	250	Average	29	249
Porter	179	352	Central--		
Pulaski	186	547	Bartholomew	30	327
Starke	186	369	Boone	25	296
White	247	522	Clinton	24	93
Average	160	390	Decatur	20	380
North Central--			Grant	24	215
Carrol	201	445	Hamilton	10	124
Cass	163	293	Hancock	19	104
Elkhart	86	424	Hendricks	27	226
Fulton	211	426	Howard	38	173
Kosciusko	34	190	Johnson	95	288
Marshall	182	438	Madison	16	182
Miami	34	128	Marion	45	265
St. Joseph	208	265	Rush	16	200
Wabash	49	179	Shelby	64	192
Average	129	310	Tipton	23	63
			Average	32	209

Table 2.--(Continued)

		: Average number	:		
		: of borers per	:		
		: 100 plants	:		
State and	:	1948	:	State and	:
county	:	1949	:	county	:
Indiana (Cont'd.):				Iowa (Cont'd.):	
East--				District 2--	
Blackford	72	219		Cerro Gordo	389 1121
Delaware	81	291		Floyd	108 1575
Fayette	85	301		Hancock	233 1019
Henry	67	411		Kossuth	492 1200
Jay	77	279		Mitchell	83 1300
Randolph	94	273		Winnebago	181 1008
Union	88	358		Worth	195 1092
Wayne	119	355		Average	260 1183
Average	66	311			
Southwest--				District 3--	
Gibson	5	28		Allamakee	39 760
Knox	45	40		Chickasaw	164 869
Posey	12	14		Clayton	113 738
Sullivan	4	17		Fayette	94 1070
Average	16	25		Howard	38 476
				Winneshiek	48 567
Southeast--				Average	84 757
Dearborn	5	270		District 4--	
Franklin	74	270		Buena Vista	460 1425
Jefferson	5	293		Calhoun	381 667
Ohio	4	139		Cherokee	200 1020
Ripley	30	452		Ida	446 760
Switzerland	9	44		Plymouth	341 1460
Average	21	245		Pocahontas	242 814
State				Sac	383 667
mean	68	277		Woodbury	253 977
				Average	336 974
Iowa:				District 5--	
District 1--				Butler	146 1094
Clay	219	1417		Franklin	172 855
Dickinson	51	950		Grundy	304 1180
Emmet	185	1066		Hamilton	211 457
Lyon	32	1394		Hardin	229 1029
O'Brien	138	1662		Humboldt	265 1467
Osceola	186	1640		Webster	348 957
Palo Alto	175	1640		Wright	361 1824
Sioux	172	2425		Average	255 1122
Average	148	1561			

Table 2.--(Continued)

: Average number : of borers per : 100 plants : 1948 : 1949			: Average number : of borers per : 100 plants : 1948 : 1949		
State and county			State and county		
Iowa (Cont'd.):			Iowa (Cont'd.):		
District 6--			District 9--		
Black Hawk	297	708	Benton	114	560
Bremer	239	1850	Cedar	392	240
Buchanan	143	690	Iowa	377	275
Clinton	76	200	Johnson	260	363
Delaware	119	851	Keokuk	151	190
Dubuque	51	667	Louisa	71	300
Jackson	25	536	Muscatine	239	283
Jones	72	508	Scott	49	182
Linn	230	560	Washington	337	367
Average	138	684	Average	225	301
District 7--			District 10--		
Audubon	458	685	Adair	154	388
Carroll	257	1258	Adams	99	127
Crawford	486	650	Cass	167	606
Greene	223	1105	Fremont	16	288
Guthrie	131	342	Mills	64	123
Harrison	233	794	Montgomery	117	848
Monona	334	1270	Page	64	494
Shelby	172	1110	Pottawattamie	156	780
Average	296	987	Taylor	78	336
District 8--			Average	109	486
Boone	381	665	District 11--		
Dallas	162	633	Appanoose	68	126
Jasper	529	850	Clarke	68	912
Marshall	586	883	Decatur	94	230
Polk	168	981	Lucas	50	750
Poweshiek	478	382	Madison	36	658
Story	238	689	Mahaska	148	525
Tama	302	857	Marion	294	590
Average	358	747	Monroe	77	323
			Ringgold	32	562
			Union	30	76
			Warren	62	386
			Wayne	10	179
			Average	84	445

Table 2.--(Continued)

		: Average number	:			: Average number	:
		: of borers per	:			: of borers per	:
		: 100 plants	:			: 100 plants	:
State and	county	: 1948	: 1949	State and	county	: 1948	: 1949
Iowa (Cont'd.):				Maryland:			
District 12--				Allegany			
	Davis	145	238		Anne Arundel	38	8
	Des Moines	191	307		Baltimore	50	76
	Henry	103	246		Calvert	21	1
	Jefferson	134	181		Caroline	47	5
	Lee	120	230		Carroll	251	117
	Van Buren	123	257		Cecil	30	4
	Wapello	157	309		Charles	7	2
	Average	138	255		Dorchester	59	24
	State mean	202	802		Frederick	210	97
Kentucky:					Garrett	9	10
	Bourbon	76	86		Harford	160	2
	Boyle	75	58		Howard	139	54
	Bullitt	17	13		Kent	27	6
	Fayette	40	12		Montgomery	95	59
	Hardin	75	31		Prince Georges	24	11
	Jefferson	162	127		Queen Annes	56	10
	Madison	52	-		St. Marys	38	Tr
	Meade	28	18		Somerset	54	33
	Nelson	44	51		Talbot	52	15
	Trimble	14	-		Washington	209	79
	Warren	41	-		Wilcomico	109	138
	Woodford	60	69		Worcester	122	111
	State mean				State mean	80	38
	comparable			Massachusetts:			
	counties (9)	64	52		Bristol	232	38
Maine:					Franklin	11	16
	Androscoggin	-	6		Norfolk	137	74
	Cumberland	198	17		Plymouth	86	55
	Franklin	157	2		State mean	117	46
	Kennebec	121	-				
	Knox	143	19				
	Lincoln	-	13				
	Oxford	127	6				
	Penobscot	25	15				
	Piscataquis	-	7				
	Sagadahoc	126	-				
	Somerset	-	5				
	Waldo	149	11				
	York	243	82				
	State mean						
	comparable						
	counties (7)	149	22				

Table 2.--(Continued)

	: Average number	:		: Average number
	: of borers per	:		: of borers per
State and	: 100 plants	:	State and	: 100 plants
county.	: 1948	: 1949	county	: 1948 : 1949
Michigan:			Minnesota (Cont'd.)	
Allegan	12	-	Central--	
Cass	-	80	Benton	12 1957
Hillsdale	-	52	Carver	140 446
Jackson	-	120	Kandiyohi	58 312
Kent	-	180	McLeod	165 360
Kalamazoo	-	54	Meeker	80 251
Lenawee	104	128	Morrison	4 368
Macomb	10	65	Renville	103 392
Monroe	113	240	Scott	180 722
Ottawa	-	96	Sherburne	2 211
St. Clair	12	14	Sibley	223 286
Sanilac	5	12	Stearns	9 204
Van Buren	130	115	Todd	6 131
Wayne	<u>36</u>	<u>253</u>	Wadena	- 76
State mean			Wright	<u>210</u> <u>482</u>
comparable			Average	92 317
counties (7)	59	119		
			East Central--	
Minnesota:			Aitken	- 137
North Central--			Anoka	20 271
Cass	-	72	Carlton	- 66
			Chisago	10 235
West Central--			Crow Wing	- 108
Big Stone	18	86	Hennepin	35 420
Chippewa	35	122	Isanti	24 235
Douglas	6	260	Kanabec	0 77
Grant	1	157	Mille Lacs	3 203
Lac qui Parle	22	576	Pine	9 44
Otter Trail	-	108	Washington	<u>60</u> <u>225</u>
Pope	3	159	Average	20 184
Stevens	8	181		
Swift	34	158	Southwest--	
Traverse	32	124	Cottonwood	103 298
Wilkin	-	105	Jackson	81 515
Yellow Medicine	<u>31</u>	<u>346</u>	Lincoln	7 316
Average	19	198	Lyon	24 764
			Murray	12 572
			Nobles	20 950
			Pipestone	37 224
			Redwood	123 394
			Rock	<u>85</u> <u>617</u>
			Average	55 517

Table 2.--(Continued)

: Average number : of borers per State and : 100 plants county : 1948 : 1949 :			: Average number : of borers per State and : 100 plants county : 1948 : 1949 :		
Minnesota (Cont'd.):			Missouri (Cont'd.):		
South Central--			Gasconade		
Blue Earth	175	604	Gentry	5	-
Brown	122	435	Grundy	20	360
Faribault	134	550	Harrison	28	145
Freeborn	219	713	Henry	-	374
Le Sueur	161	272	Howard	0	-
Martin	143	472	Iron	17	-
Nicollet	210	447	Johnson	0	-
Rice	185	520	Knox	3	-
Steele	148	718	Lafayette	-	32
Waseca	112	1230	Lewis	8	-
Watsonwan	190	545	Lincoln	37	101
Average	163	592	Livingston	3	-
Southeast--			Macon	12	150
Dakota	62	167	Madison	-	18
Dodge	101	488	Marion	0	-
Fillmore	44	323	Mercer	29	170
Goodhue	176	556	Monroe	19	199
Houston	24	295	Montgomery	0	-
Mower	71	460	Nodaway	48	56
Olmstead	115	428	Perry	26	145
Wabasha	63	455	Pettis	5	-
Winona	40	174	Phelps	1	-
Average	77	372	Pike	0	-
State mean	76	379	Platte	4	-
Missouri:			Ralls	6	114
Adair	22	58	Ray	11	63
Andrew	20	-	Randolph	19	28
Atchison	23	136	St. Charles	-	87
Bates	1	-	St. Clair	53	-
Bollinger	0	-	St. Francois	0	-
Boone	-	18	St. Genevieve	0	-
Carroll	-	108	St. Louis	11	-
Cass	8	-	Saline	120	-
Clark	31	125	Stoddard	3	-
Clay	7	40	Sullivan	0	-
Clinton	8	-	Vernon	38	-
Cooper	18	-	Warren	0	-
Crawford	0	-	Washington	8	0
De Kalb	18	-	Worth	0	-
			State mean	0	237
			comparable		
			counties (17)	20	125

Table 2.--(Continued)

		: Average number				: Average number	
		: of borers per				: of borers per	
State and		: 100 plants		State and		: 100 plants	
county		: 1948 : 1949		county		: 1948 : 1949	
Nebraska:				Nebraska (Cont'd.):			
Northwest--				East--			
Morrill	-	0		Butler	5	33	
				Cass	34	154	
North--				Colfax	16	176	
Boyd	-	25		Dodge	35	248	
Garfield	-	8		Douglas	65	215	
Holt	-	10		Hamilton	-	117	
Loup	-	2		Lancaster	30	41	
Wheeler	-	0		Merrick	-	69	
Average	-	9		Nance	-	36	
Northeast--				Platte	22	224	
Antelope	-	46		Polk	17	73	
Boone	-	75		Sarpy	41	367	
Burt	102	553		Saunders	12	104	
Cedar	68	415		Seward	22	101	
Cuming	-	154		Washington	63	331	
Dakota	114	130		York	-	29	
Dixon	44	130		Average	30	145	
Knox	-	191		Southwest--			
Madison	-	137		Frontier	-	2	
Pierce	-	204		Hitchcock	-	8	
Stanton	-	187		Lincoln	-	14	
Thurston	93	223		Redwillow	-	18	
Wayne	-	264		Average	-	10	
Average	84	222		South--			
Central--				Adams	-	10	
Buffalo	-	19		Franklin	-	11	
Custer	-	4		Gage	8	25	
Dawson	-	73		Gosper	-	1	
Greeley	-	78		Harlan	-	1	
Hall	-	14		Kearney	-	38	
Howard	-	6		Phelps	-	32	
Sherman	-	24		Webster	-	0	
Valley	-	139		Average	8	15	
Average	-	45					

Table 2.--(Continued)

: Average number : of borers per : 100 plants			: Average number : of borers per : 100 plants		
State and county	1948	1949	State and county	1948	1949
Nebraska (Cont'd.):			New Jersey (Cont'd.):		
Southeast--			Mercer	90	21
Clay	-	33	Middlesex	25	18
Fillmore	-	3	Monmouth	137	37
Jefferson	-	2	Morris	41	16
Johnson	8	18	Ocean	151	89
Nemaha	29	48	Passaic	40	9
Nuckolls	-	2	Salem	4	7
Otoe	30	116	Somerset	37	Tr
Pawnee	9	7	Sussex	23	15
Richardson	36	41	Warren	29	2
Saline	2	26	State mean	59	43
Thayer	-	10			
Average	19	28	New York:		
State mean			Albany	121	21
comparable			Columbia	100	75
counties (24)	38	157	Dutchess	30	33
			Erie	19	61
New Hampshire:			Greene	59	70
Belknap	202	122	Livingston	27	7
Carroll	348	78	Monroe	62	17
Cheshire	55	9	Nassau	137	16
Grafton	-	56	Niagara	33	62
Hillsboro	212	168	Oneida	32	11
Merrimack	154	-	Onondaga	24	53
Rockingham	221	184	Ontario	8	2
Strafford	240	102	Orange	68	24
Sullivan	44	18	Orleans	9	53
State mean			Rensselaer	41	45
comparable			Saratoga	67	23
counties (7)	189	105	Schenectady	48	12
			Suffolk	69	37
New Jersey:			Ulster	36	35
Atlantic	68	67	Wayne	5	5
Bergen	76	33	State mean	50	33
Burlington	57	142			
Camden	41	93	North Carolina:		
Cape May	135	135	Camden	38	12
Cumberland	14	30	Currituck	108	91
Essex-Union	28	60	Pasquotank	13	3
Gloucester	91	41	State mean	53	35
Hunterdon	31	6			

Table 2.--(Continued)

: Average number			: Average number		
: of borers per			: of borers per		
State and	: 100 plants	:	State and	: 100 plants	:
county	: 1948	: 1949	county	: 1948	: 1949

North Dakota:			Ohio:		
Barnes	0	70	Northwest---		
Benson	-	5	Allen	74	214
Burleigh	-	28	Defiance	50	221
Cass	0	126	Fulton	124	303
Cavalier	-	42	Hancock	150	280
Dickey	0	32	Henry	94	493
Emmons	-	1	Lucas	217	342
Foster	0	14	Ottawa	77	133
Grand Forks	0	122	Paulding	71	193
Griggs	0	28	Putnam	63	472
Kidder	-	8	Van Wert	43	258
LaMoure	Tr	49	Williams	45	326
Logan	-	6	Wood	269	239
McHenry	-	3	Average	106	290
McLean	-	4			
Mercer	-	6	Northeast---		
Norton	-	2	Wayne	114	115
Nelson	0	70			
Pembina	-	126	West Central---		
Pierce	-	-	Auglaize	54	480
Ramsey	-	12	Champaign	71	309
Ransom	0	48	Clark	188	593
Richland	Tr	117	Darke	124	503
Sargent	0	13	Hardin	12	140
Steele	0	20	Logan	32	161
Stutsman	-	19	Mercer	31	423
Traill	0	65	Miami	85	616
Walsh	-	80	Shelby	34	359
Ward	-	13	Average	70	398
Wells	-	12			
State mean			Central---		
comparable			Fayette	61	497
counties (13) Tr		59	Franklin	123	337
			Madison	67	329
			Pickaway	34	345
			Average	71	377

Table 2.--(Continued)

: Average number : of borers per State and county			:	: Average number : of borers per State and county			
: 100 plants : 1948 : 1949			:	: 100 plants : 1948 : 1949			
Ohio (Cont'd.):				Pennsylvania (Cont'd.):			
Southwest--				East--			
Butler	45	103		Lehigh	56	36	
Greene	84	366		Luzerne	13	48	
Hamilton	49	104		Northampton	34	13	
Montgomery	177	188		Average	34	32	
Preble	83	139					
Average	88	180		Southwest--			
State mean	88	309		Allegheny	43	169	
				Fayette	-	321	
				Somerset	43	36	
				Washington	-	202	
				Westmoreland	99	167	
				Average	62	179	
Pennsylvania:							
Northwest--				South--			
Crawford	15	7		Adams	74	45	
Erie	21	27		Bedford	10	2	
Mercer	13	41		Cumberland	122	68	
Average	16	25		Franklin	196	37	
				Fulton	22	8	
North--				York	73	62	
Clinton	108	15		Average	83	37	
Lycoming	55	28					
Tioga	-	14		Southeast--			
Average	82	19		Berks	103	51	
				Bucks	254	72	
West--				Chester	319	93	
Armstrong	4	43		Delaware	139	125	
Beaver	-	51		Lancaster	143	58	
Butler	5	90		Lebanon	209	22	
Indiana	37	19		Montgomery	255	121	
Lawrence	13	69		Philadelphia	299	40	
Average	15	68		Average	215	73	
				State mean			
Central--				comparable			
Blair	26	30		counties (38)	90	51	
Centre	49	11					
Clearfield	-	48		Rhode Island:			
Columbia	-	17		Newport	266	79	
Dauphin	122	76		Providence	83	53	
Huntingdon	28	26		Washington	226	13	
Juanata	81	59		State mean	192	48	
Mifflin	226	52					
Montour	-	2					
Perry	32	48					
Snyder	30	23					
Union	60	9					
Average	73	33					

Table 2.--(Continued)

: Average number : of borers per : 100 plants			: Average number : of borers per : 100 plants		
State and county	: 1948	: 1949	State and county	: 1948	: 1949
South Dakota:			South Dakota (Cont'd.):		
North Central--			Southeast--		
Brown	-	44	Bon Homme	34	-
Campbell	-	8	Charles Mix	19	-
Potter	-	8	Clay-Union	165	600
Walworth	-	72	Douglas	4	-
Average	-	33	Hutchinson	32	-
Northeast--			Turner-Lincoln	232	640
Codington	-	150	Yankton	78	487
Day	-	50	Average	80	576
Deuel-Hamlin	3	57	State mean		
Grant	26	-	comparable		
Average	15	86	counties (16) 68		
Central--			Vermont:		
Beadle	13	-	Addison	6	-
Brule	3	-	Bennington	50	3
Buffalo	-	8	Caledonia	15	-
Hughes	-	12	Chittenden	10	Tr
Hyde	-	6	Franklin	7	2
Sully	-	2	Grand Isle	32	-
Average	8	7	Orange	10	2
East Central--			Rutland	30	6
Brookings	3	194	Washington	10	6
Davison	36	-	Windham	23	3
Hanson-McCook	28	154	Windsor	14	2
Kingsbury	12	83	State mean		
Lake-Miner	37	104	comparable		
Minnehaha	114	750	counties (8) 19		
Moody	58	317			3
Sanborn	20	494			
Average	39	299			
South Central--					
Lyman	0	-			

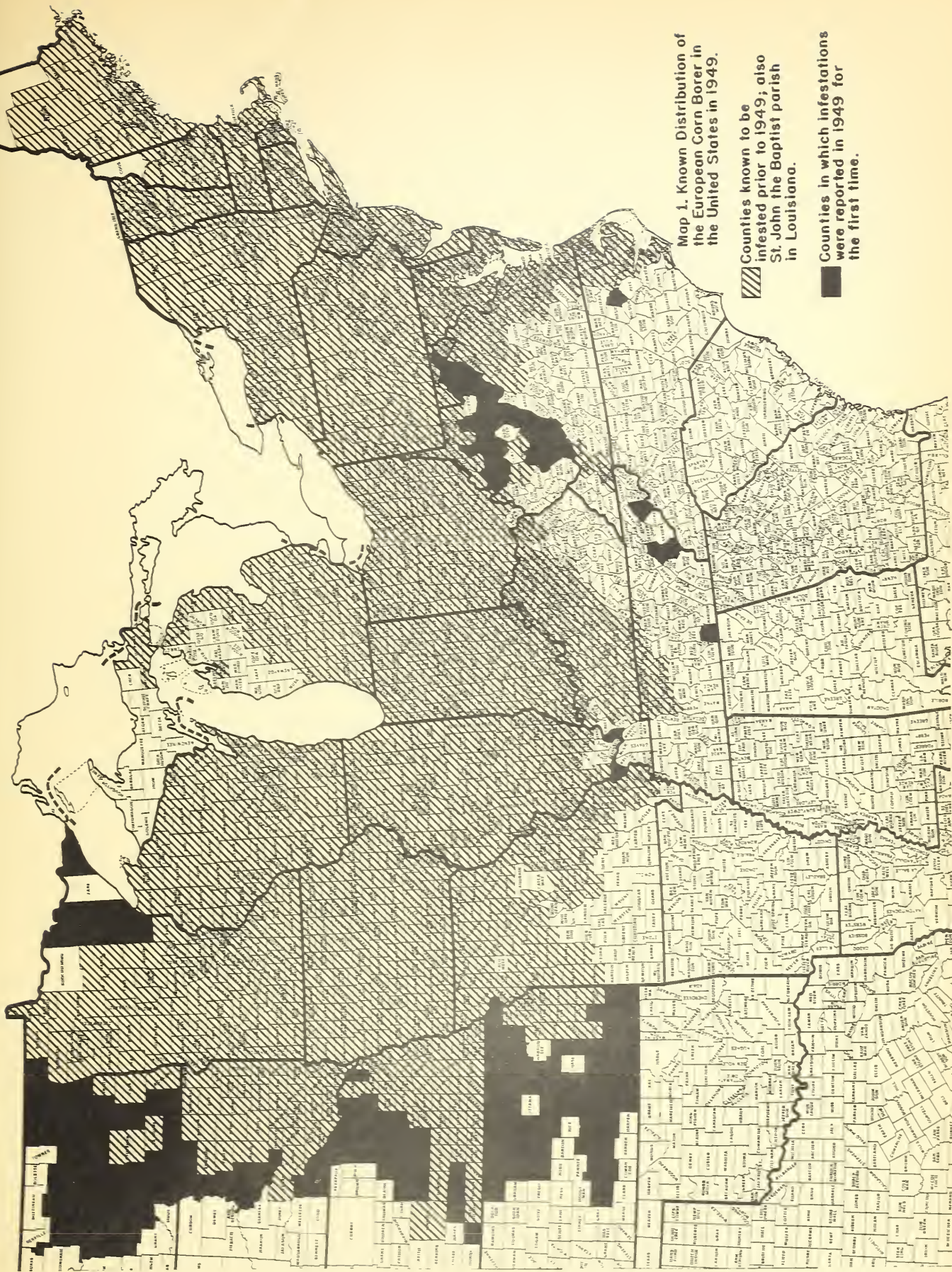
Table 2.--(Continued)

	: Average number	:		:	Average number
	: of borers per	:		:	: of borers per
State and	: 100 plants	:	State and	:	: 100 plants
county	: 1948	: 1949	county	: 1948	: 1949
Virginia:			Wisconsin (Cont'd.):		
Accomac	88	134	Northeast--		
Augusta	-	20	Calumet	56	49
Clarke	115	118	Brown	24	55
Culpeper	61	131	Door	33	50
Fairfax	38	7	Kewaunee	41	43
Fauquier	82	65	Manitowoc	22	35
Frederick	86	125	Marinette	32	-
Gloucester	16	-	Oconto	35	-
Loudoun	137	127	Average	35	46
Nansemond	22	8			
Norfolk	52	64	West Central--		
Northampton	374	85	Buffalo-Pepin	-	489
Prince William	17	-	Jackson	-	325
Princess Anne	27	207	La Crosse	-	652
State mean			Monroe	-	70
comparable			Trempealeau	-	275
counties (11)	98	97	Vernon	22	280
			Average	22	348
West Virginia:			Central--		
Mason	31	2	Adams	6	74
Nicholas	5	7	Fond du Lac	23	180
Ohio	26	122	Juneau	23	316
State mean	21	44	Marquette-		
			Green Lake	24	344
Wisconsin:			Outagamie	21	61
Northwestern--			Portage	8	10
Barron	-	97	Waupaca	26	58
Burnett	-	37	Waushara	14	18
Chippewa	-	59	Winnebago	52	43
Douglas	-	66	Wood	14	16
Dunn	-	392	Average	21	112
Eau Claire	-	200			
Pierce	-	537	Southwestern--		
Polk	-	186	Crawford	47	248
St. Croix	-	1114	Grant	45	488
Washburn	-	47	Iowa	11	122
Average	-	274	Lafayette	77	483
			Richland	42	133
North Central--			Sauk	37	273
Clark	6	4	Average	43	291
Marathon	14	12			
Shawano	17	9			
Taylor	-	5			
Average	12	8			



Table 2.--(Continued)

	: Average number	:		:	Average number
	: of borers per	:		:	: of borers per
State and	: 100 plants	:	State and	:	: 100 plants
county	: 1948	: 1949	county	: 1948	: 1949

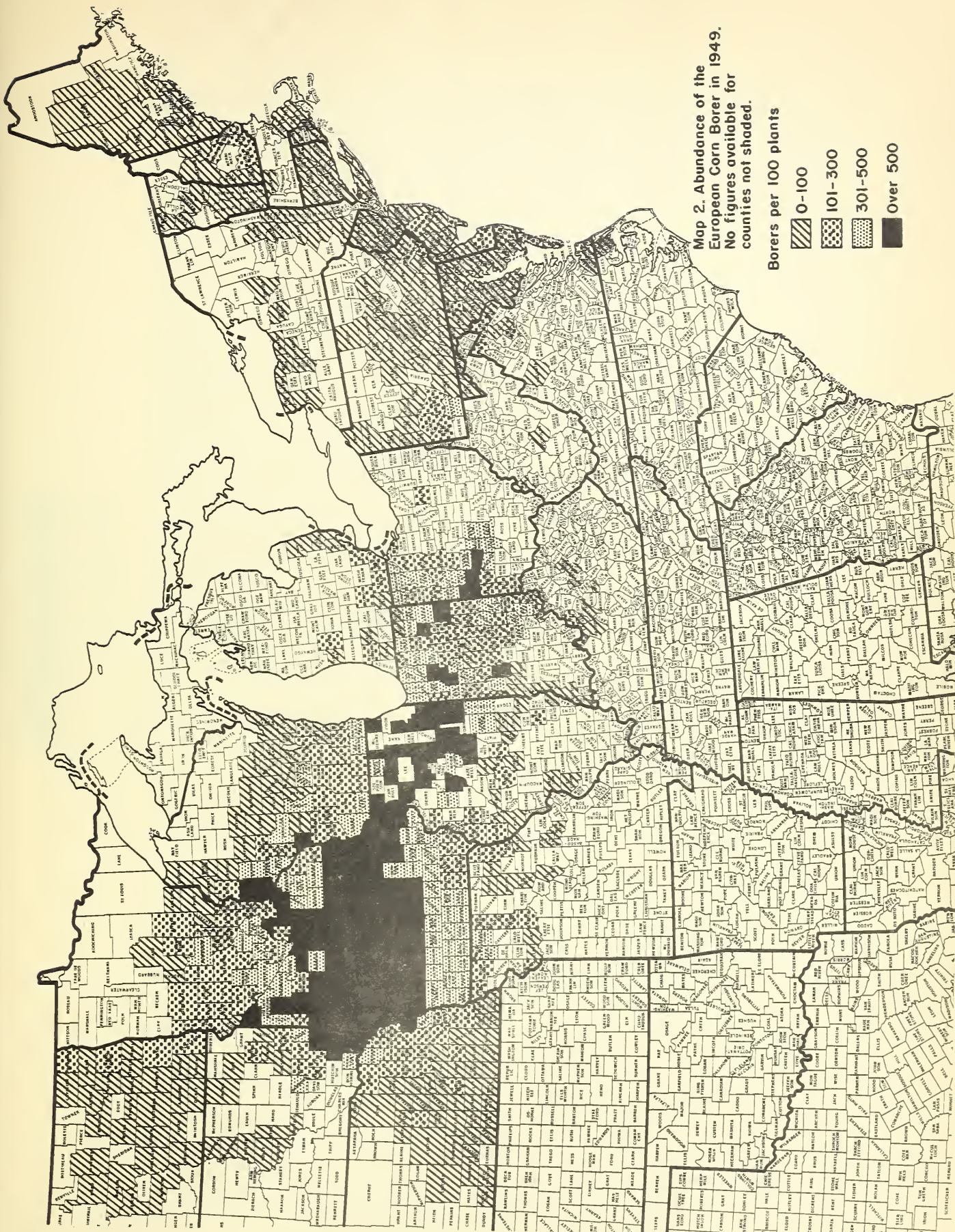
Wisconsin (Cont'd.):			Southeastern--		
South Central--			Racine-Kenosha		
Columbia	28	228		59	312
Dane	38	166	Sheboygan	33	127
Dodge	36	102	Washington-Ozaukee	20	78
Green	69	140	Waukesha-Milwaukee	64	110
Jefferson	29	148	Average	44	157
Rock	36	215	State mean		
Walworth	42	376	comparable		
Average	40	196	counties (36)	33	150



Map 1. Known Distribution of the European Corn Borer in the United States in 1949.

-  Counties known to be infested prior to 1949; also St. John the Baptist parish in Louisiana.
-  Counties in which infestations were reported in 1949 for the first time.





Map 2. Abundance of the European Corn Borer in 1949. No figures available for counties not shaded.

Borers per 100 plants

0-100	101-300	301-500	Over 500
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